

What is claimed is:

1. An impeller blade for use in a mixing vessel, comprising:  
an inner blade portion angled in a first direction;  
an outer blade portion disposed radially outward from the inner blade portion; and  
a connector element that provides radial spacing between respective inner and outer blade portions.
2. An impeller according to claim 1, wherein the inner blade portion is twisted.
3. An impeller according to claim 1, wherein the outer blade portion is twisted.
4. An impeller according to claim 1, wherein the inner blade portion is twisted, and the outer blade portion is twisted.
5. An impeller according to claim 1, wherein the connector is a cylindrical rod.
6. An impeller for use in a mixing vessel, comprising:

a hub;

at least two inner blade portions disposed radially outward from the hub and angled in a first direction;

at least two outer blade portions disposed radially outward from respective inner blade portions; and

at least two a connector elements that each provide radial spacing between respective inner and outer blade portions.

7. An impeller according to claim 5, wherein the inner blade portions are twisted.

8. An impeller according to claim 5, wherein the outer blade portions are twisted.

9. An impeller according to claim 5, wherein the inner blade portions are twisted, and the outer blade portions are twisted.

10. An impeller according to claim 5, wherein the connector is a cylindrical rod.

11. An impeller for use in a mixing vessel, comprising:  
at least two inner blade portions angled in a first direction;

at least two outer blade portions disposed radially outward from respective inner blade portions; and

means for providing radial spacing between respective inner and outer blade portions.

12. An impeller according to claim 11, wherein the inner blade portions are twisted.

13. An impeller according to claim 11, wherein the outer blade portions are twisted.

14. An impeller according to claim 11, wherein the inner blade portions are twisted, and the outer blade portions are twisted.

15. An impeller according to claim 11, wherein the connector is a cylindrical rod.

16. A method for mixing material in a mixing vessel using an impeller, the method comprising the steps of:

forcing the material in a first direction using a blade disposed radially outwardly from a hub; and

forcing the material in a second direction opposite to the first

direction using a second blade that is disposed radially outward from the first blade with a radial space provided between the first and second blades.

17. A method according to claim 1, wherein the first blade portion is twisted.

18. An impeller according to claim 16, wherein the second blade portion is twisted.

19. A method according to claim 16, wherein the first and second portions are both twisted.

20. A method according to claim 16, wherein the connector is a cylindrical rod.